

▲ Challenges Ahead of Emergency Medical Technician Graduates in the Workplace in Iran

A Qualitative Study

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OBJECTIVE: Emergency medical technicians (EMTs) in Iran enter the workplace after a short academic education. Their workplace has high emotional fluctuations and imposes high pressure. The aim of this study was to assess the challenges faced by EMT graduates in Iran. **DESIGN:** This applied study was conducted using qualitative content analysis. Twelve paramedics and graduates with 2 to 3 years of service were interviewed and their responses were analyzed by content analysis. **RESULTS:** Findings were presented in five themes: organizational pressure, educational style, professional communication, emotional load, and misunderstanding of others. **CONCLUSION:** Several problems confront EMTs in Iran. Educators and educational planners in this discipline could help resolve these problems by revising problematic points in the education and management of EMT graduates and by revising educational methods and human resource management to provide better services and save lives. *J Allied Health* 2014; 43(2):e19-e24.

IRAN is one of the developing countries and natural or artificial disasters, such as car accidents, cardiovascular events, earthquakes, floods, etc., routinely affect this

country. Health services need sufficient staff and expert professional people.¹ For emergency medical technicians (EMTs), the educational training is short (2 years). EMTs help victims in real situations while working independently and there is no direct access to experts for giving necessary consultation. They face stressful environments, such as places with multiple victims, ill patients, etc., where working is very difficult.²⁻⁴ These circumstances can disturb their professional and personal lives and cause professional exhaustion.

The transition from studentship to the professional role in all disciplines, especially medical science fields, has been always noticed by scholars and experts. Students should apply their theoretical and practical knowledge in their workplace when they enter the new environment. On the other hand, the new environment presents different conditions and values which can create challenges for them.⁵ Issues such as different accents and clients, cultural differences, lack of social support, high social interaction, ways of communication with clients and their families,⁶ and high emotional fluctuations during working in emergency conditions could raise problems for EMTs, and these physical and psychological problems form a complex phenomenon.⁷

These challenging conditions for EMTs could be resolved by recognizing the challenging factors in order to decrease human resource depreciation, provide better and more effective service, improve job satisfaction, promote physical and psychological health, and also improve prehospital quality of care. Therefore, to understand factors that influence these professional problems immediately after graduation, attention also needs to be given to the experience, beliefs, and value of new comers. There is not enough and sufficient knowledge of these factors influencing the professional problems of EMTs. Because of the lack of studies in Iran, the researchers decided to conduct the present study aimed to identify the challenges ahead of EMTs in their country.

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RN1374—Received Oct 6, 2013; accepted Feb 24, 2014.

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TABLE 1. Interview Questions

How do you experience in the clinical setting?
What problems do you face?
What are shortcoming of this discipline?
What challenges most influence your performance?
What events threaten you?
Are you able to manage the scene?
What is the most important concern when you start working?
How much academic knowledge is enough for the practical atmosphere?

Methods

This qualitative study was conducted on 12 practitioners who graduated in last 2–3 years in the EMT discipline. In present study, 12 EMTs from different cities of Khorasan province were selected by purposeful sampling. Data were collected with semi-structured individual interviews. All interviews were recorded, transcript and reviewed. Data were analyzed using conventional content analysis.

In this study both explicit and implicit concepts were determined. Concepts and codes were reduced and categorized based on similarity and differences using conventional content analysis and based on practitioner descriptions, and then themes were extracted.

Researchers went to emergency stations. An initial introduction was made by them, and after informed consent was obtained, some EMTs who had enough knowledge and could explain their experience and give rich data to researcher were interviewed. The place of interview was based on practitioner preference, such as emergency station or nursing and midwifery schools. Although participants were not representative of the EMTs community, they could share their experiences until the data were saturated. Participants signed the informed consent before the interview and ethical considerations were followed. Some open questions were asked to identify challenges (Table 1), but sometimes other questions were used to prompt more discussion.

Participants were interviewed for 30–60 min, and there was no need for further interviews. All interviews were recorded and transcribed word by word; participant feedback was received for the data, and all of them were confirmed (member checking). Data were analyzed by researchers when first they were coded, and then divided to different parts, read carefully, and their similarity and differences studied. Then categories were formed. Each category was analyzed and major themes which were not detected before were obtained.

A second researcher participated in all steps of data collection, participant selection, interview, data transcription, and analysis for ensuring data accuracy (credibility). Trustworthiness was confirmed by continues involvement with data as well as increased expanse and depth of data. Reliability was confirmed by inter-rater

reliability (between first and third researchers). Authors compared transcripts and discussed differences. Researchers independently transcribed and discussed differences. Researchers returned to transcripts, and if more clear or more detail was needed, they would call the participants. Finally, the authors' general agreement was achieved on major themes. Codes and categories were presented to qualitative methodologists in order to give comment on the analysis process.

Findings

Participants were males aged 22–29 years old (mean 25.5). They spoke Farsi. Data analysis resulted in 486 initial codes, 16 category, and 5 themes. The major themes were organizational pressure, educational styles, professional communication, emotional load, and other's misunderstandings. These described the special problems and challenges facing graduate EMTs at the start of their careers (Table 2).

ORGANIZATIONAL PRESSURE

Although the term “organization” has a broad definition, participants identified several issues which are categorized in this area (Table 2). Lack of staff, lack of equipment, lack of proper supervision, and lack of standard instruction were subcategories of this theme. In the organizational pressure category, regarding lack of staff and the presence of undergraduate personnel, some EMTs believe that the former staff of emergency services would implement nothing for the patient and just transport him to hospital: “*The former just would like to terminate their mission; for example, if I am a driver technician, I saw he transported the victim to ambulance with no examination or care...*” (P:5)

Lack of proper supervision and evaluation: Failure to provide timely personnel evaluation or a low level of monitoring led to EMT dissatisfaction: “*... When I noticed a salary reduction, I realized in a mission I was late for 4 minutes. No problem, supervision is necessary and you did right; however, it was related to 4 months ago, why it is announced jut now?*” (P:1)

Lack of equipment: EMTs require sufficient equipment to provide prehospital care. The lack of equipment may cause problems for the patient: “*Sometimes we had no portable oxygen capsule at the scene.*” (P:9)

Lack of standard instruction: Many participants complain of a lack of standardized training in college, so they were not able to decide on appropriate treatment at an emergency scene.

PROFESSIONAL COMMUNICATION

One of the challenging issues for new graduates is their communications with colleagues, clients, and hospital staff who receive the patient at the hospital. In this

TABLE 2. Themes and Categories Derived from Participants' Interview Detailing the Challenges Facing EMT Graduates

Themes				
Organizational Pressure	Educational Styles	Professional Communication	Emotional Load	Other's Misunderstandings
Lack of staff	Lack of effective clinical teaching	Communication with other technicians	Concerns	Lack of familiarity of people with the tasks and responsibilities of the discipline
Lack of equipment	Lack of applied and practical teaching	Communication with people	Physical trauma	Understanding of hospital staff
Lack of proper supervision	Lack of educator expertise	Communication with the hospital nurse or physician	Emotional distress	Lack of teamwork
Lack of standard instruction				

theme, communication with other technicians, communication with people, and communication with the hospital nurse or physician are placed.

Communication with other technicians: Many of the participants encountered conflicts in their communications with their colleagues in EMS area. As one participant stated: *"We pass 24 hours in the shifts with each other. In other words, we live with each other in the emergency station; we have different preferences and behaviors, from lunch and dinner to emergency scenes."* (P:6)

Communication with hospital nurse and physician: EMTs encountered some other communication barriers when interacting with the hospital staff, including doctors and nurses: *"It has always been debated between technician and prehospital staff (hospital emergency) about the IV line which hospital discussed. Yes, it is important in hypovolemic shock and in burns (third degree), but, ..."* (P:1)

Communication with people: One of cases that EMTs have to communicate with is people. However, this communication is going to be difficult, because there are poor assumptions about EMTs. As one participant explained: *"People believe that always the ambulance arrived late. Sometimes we are called, we are at the other side of street, but we hear that 'you are late.'"* (P:6)

EDUCATIONAL STYLES

This category was created when participants were asked to speak about their educational issues and the application of their academic knowledge in practice. The subcategories were lack of effective clinical teaching, lack of applied and practical teaching, and lack of educator' expertise.

Lack of effective clinical teaching: Many participants cited that clinical teaching in college was insufficient and that beginning to work with this competency was not sufficient; they cited the need to work with an expert to achieve expertise: *"I was working with a techni-*

cian at first. During first 4–5 month, I was working with a more experienced technician and he was manager... During first 6 month of my work, I learned around twice of something that I learned in university..." (P:6)

Lack of educators' expertise: Another challenge that participants mentioned was the lack of knowledge of some educators related to the discipline. Therefore, what instructors taught was not related to content of the discipline. *"Professor of pharmacology, when offering lessons, said that you can administer Lorazepam as a tranquilizer or administer another medicine for the patient, [but] the drug that he mentioned is not in emergency [EMS box]."* (p:4)

Lack of applied or practical teaching: Students at these schools were taught by people who had no skill in prehospital clinical work, and they needed to offered lessons with their own approaches, which was a hospital-based perspective to teaching: *"I am not satisfied with my university. My educators were nurses, they taught me something useless for my job..."* (P:8)

EMOTIONAL LOAD

Some extent of emotional load was mentioned by participants when they described their experience in EMS. Its subcategories were concerns, physical trauma, and emotional distress.

Concerns: The EMTs related fear and stress from not doing something after graduation. Some of participants also mentioned their lack of ability for scene management: *"My first mission was on CPR. I exactly remember its time—my fear and experiences of stress. After 2 years after graduation, I started working, but I had not placed an IV line for 2 years."* (P:2).

Physical trauma: Transporting heavy patients may cause damage physically to EMTs. Another problem is the risk of accident. *"I see my colleague with discopathy, because he should transport patients with stretcher from third floor ... it mean I will be at risk if I am not careful."* (P:1)

Emotional distress: When EMTs encounter a grisly scene, they will experience a lot of stress, and they needed to relieve these stresses in different ways, such as talking with friends, family, or psychologists: *"I had a mission for an accident. A bus collided with a car. Four passengers of the car were just died... However, I was affected honestly and I would like to speak about it to somebody."* (P:5)

MISUNDERSTANDINGS OF OTHERS

The final issue was misunderstanding of others, which includes a lack of familiarity of people with the responsibilities and tasks of EMTs, understanding of hospital staff, and lack of teamwork. Subcategories included a lack of familiarity of people about the responsibilities and tasks of the discipline.

Lack of familiarity with EMT tasks: Many participants believed that the awareness of society about EMS and EMTs' tasks was low. In some cases, people did not understand that EMTs are not just a means to transport patients to the hospital, but if the patient needs emergency care, EMTs can provide it to him: *"People did not know of what they should expect from EMS. There were several situations in which patients should be transported by ambulance, but he was transported by car. Or I remember an emergency situation where the family knew there is no need for an ambulance, but they called to EMS."* (P:2)

Understanding of hospital staff: Another participant added that hospital staff show a lack of understanding and a lack of confidence in EMTs' skills.

Lack of teamwork: The knowledge of physicians related to EMTs' capabilities is low. That is why teamwork does not occur, because physicians do not form confidence in the emergency medical services.

Discussion

The present research studied challenges ahead of EMTs graduates. Based on the results, many problems, such as organizational pressure, professional communication, lack of familiarity with this discipline, and emotional pressure, affect EMTs at the beginning of their work. There are some similarities and difference between our findings and those of other studies from different countries as well as from other fields of medical sciences.⁸

In the organizational pressure area, some issues such as lack of staff, lack of equipment, lack of evaluation, lack of proper supervision, and lack of standard instruction were mentioned. Sterud considered organizational stress as the most important source of stress in technicians.⁹ The present study is similar to his research result. Regehr and Millar showed in their study that EMTs in their organizational level have a high level of needs, less supervision, and less social support, thus they receive high stress, trauma, and professional exhaustion.¹⁰ These results are in agreement

with the present study. Managers play an important role in changing the workplace and can reduce exhaustion in their personnel,¹¹ using the results of this study to help understand management gaps and try to eliminate them.

Professional communication was related to communication with colleagues, communication with hospital staff, and communication with people. Regener pointed out some points for improving communication. He said that considering factors such as knowledge, communication skills, decision-making, technical skills, self-reflection capability, creativity, and enthusiasm could help us to answer this question and could we train successful EMTs for EMS or not.¹² Some communication problems with people could be resolved considering this issue.

Other studies mentioned several moral and ethical conflicts for EMTs, such as relationships between patient health care providers, personnel profits of patient, ideal professional personnel, professional role of health care provider, self-regulation of technicians, and recognition of the patient and his family as well as other health care providers, organizational structure, and management resource, and social ideal and other professions.¹³ These findings are in agreement with the present study about communication problems. The present study showed that professional communication in three levels—colleague–colleague, technician–physician, and technician–patient—is necessary to give excellent health care to patient. McNeese Smith showed that correct and effective communication between colleagues can lead to providing better care,¹⁴ and this was similar to this study.

In the case of educational styles, lack of effective clinical teaching was obvious, which created a wide gap between theory and practice. Michau et al. considered lack of opportunity for working bedside outside the hospital creates a gap between theory and practice in EMTs.¹⁵ This was similar to our present study. One of the problems was the educator's lack of expertise and consequently a lack of opportunity for education in prehospital emergency care. Similarly, Ray considered clinical educators as a reason for lack of proper and sufficient education to EMTs.¹⁶ Educational modification could involve a change of curriculum, content, and educational models (change of apprenticeship to new models in higher academic ranks). This method is one of the solutions for training graduates in order to provide better services. As McCall stated, they should consider some educational modification in response to clients, as well as because it is necessary to change the academic curriculum in EMT in Iran.¹

The other issue was a lack of applied or practical teaching, where graduates only experienced hospital teaching. This could be due to working nurses and physicians in the hospital who followed hospital approaches. Educators had no background in the pre-

hospital settings or emergency stations. They had no prehospital insight, unless they would experience courses either as a shift in an emergency station or go to special missions. If EMTs are taught the theory related to the clinical courses they are presented in emergency stations, it seems their approaches will change. One method for bridging the gap and eliminating educational weakness in technicians is case-based and problem-based education, which is excellent for teaching rapid and correct decision-making.¹⁷ Educators should be reminded of the links between hospital teaching and prehospital care. Bartz wrote that clinical competency is one of the most important qualities of the clinical educator,¹⁸ and general physicians could help students in assessment, diagnosis, and semiology. If physicians were in charge in the hospital or they experienced a shift in the emergency department, they would play a better role in teaching students. Applying various teaching methods based on the situation could facilitate learning.

The other challenge of emotional load was violence against technicians. The results of Rahmani et al. showed that 37.7% of personnel experienced physical violence in recent year. The most important reason was a knowledge deficit related to EMTs tasks and responsibilities.¹⁹ So, it is recommended that society have general information about EMTs for preventing debate in order to minimize the level of physical violence against EMTs. International studies show that around 60% of emergency technicians experienced physical violence at the workplace and 21% to 78% of them heard verbal abuse.²⁰

Most participants considered emotional load as a problem, which has been confirmed by several studies. For example, Wallin conducted his study on 374 paramedics and showed that the experienced job stress in this group is higher than in other medical professions. This stress may be due to low job satisfaction, organizational stress, negative attitude of patients, and physical overwork.²¹ EMTs work in the workplace where time is so important that even seconds are crucial,²² which is another reason for high stress in this profession. Implementing procedures in limited time and doing procedures for children with acute conditions are very problematic for EMTs.²³ Opening airways, which is one of the important task of EMTs, needs practice and expertise.²⁴

In all cases, the above-mentioned situations are some of the most stressful events for this group, such that most participants mentioned to them. The other issue was emotional distress, which was mentioned by Okada; he reported emotional distress as well as physical exhaustion such as back pain, cervical pain, and shoulder pain. He reported that these pains are common among EMTs,²⁵ and that conforms to the results of this study. Similarly to this study, Boyle also stated that paramedics experience a high emotional load and need a spiritual approach in their workplace.⁷ This finding is in agreement with present study. Emo-

tional stress of EMTs could be minimized by psychological sessions or a psychological consult.

There were some limitations for this study: it was conducted on EMT graduates of Khorasan Province in Iran (located in eastern Iran and containing the city of Mashhad), so the experiences of graduates studied were based on conditions of the universities. Although the curriculum is the same for all universities, in case of EMS, little study has been done in Iran. It is recommended to conduct more research, both qualitative and quantitative, due to problems that EMTs face.

Conclusion

Challenges ahead of EMT graduates are based on five themes: organizational pressure, educational styles, professional communications, emotional load, and others' knowledge deficit related to the discipline. The results of this study would be helpful to managers and educational planners in resolving the problems regarding the underlying reasons, such as the management, educational and communicative issues, in order to help prepare young EMTs for providing better care and saving lives as much as possible.

Special thanks to all participants for their time and to colleagues who supervised the results of project.

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Published online 1 June 2014.
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